

### Abstract

The present invention provides a catalyst comprising  
(A) a tantalum compound, and

(B) an organic metal compound, wherein the organic metal  
5 compound (B) comprises at least one group selected from the group  
consisting of the following (1) to (5):

(1) a branched or cycloalkyl-substituted primary alkyl  
group having 4 to 15 carbon atoms,

(2) an aryl-substituted primary alkyl group having 7 to  
10 15 carbon atoms,

(3) a 3-alkenyl group having 4 to 15 carbon atoms,

(4) a secondary alkyl group having 3 to 15 carbon atoms  
which may be substituted with an aryl group or a cyclic alkyl  
group having 3 to 15 carbon atoms, and

15 (5) a secondary alkenyl group having 4 to 15 carbon atoms,  
the catalyst showing good olefin trimerizing activity.